
ENGINEERING STANDARDS UPDATE

[Standards are serious business](#), but this newsletter isn't.

Topics this month:

- **Goodbye Jeff Fauble**
- **NFPA 70-2017 Adopted!**
- **Training & Qual**
- **Engineering Processes Changes**
- **LANL Standards Issued in March**
- **PM Procedure Changes**
- **DOE Technical Standards Action**
- **When Good Conduct of Engineering Isn't Followed**

The LANL Engineering Standards: <http://engstandards.lanl.gov/>

As always, free to use, no ads, and no selling of analytics to third parties!

Not an April Fool's joke: This Sunday (Apr 1) in the morning (give or take a couple of days), beware of the uncontrolled re-entry of the Tiangong-1 (Heavenly Palace) Chinese space station. One's chances of being hit by debris are about 1 in a trillion, but a superstitious sort might visit Carlsbad Caverns. Worst thing that can happen there is [getting stuck in the elevator for three hours](#). Conduct of Maintenance, NPS?

GOODBYE JEFF FAUBLE

The Conduct of Engineering Office, which is policy setting, tends to attract late-career folks that have been around the block a couple of times (either gray already or headed that way). And so, as alluded to last month, Jeff Fauble is retiring, with his last day April 26. Please stop by his office downtown to wish him well. He's been doing a great job managing the Engineering Processes Program (APs, etc.) since late 2016 and we're really sorry to see him go. So...anyone interested in taking over?

Unrelated but also notable is the recent retirement of [Kevin Krank](#), manager of Field Engineering. In that often-thankless role since 2012, he was also the Chief Inspector of the LANL Building Department described by ESM Chapter 16 IBC Program. Kevin's former deputy, Ed Lucero, is now in charge—please give him your full support (updated [org LBO chart](#)).

NFPA 70-2017 ADOPTED!

The New Mexico Administrative Code adopted the 2017 National Electrical Code (NEC) on February 1 with a 6-month grace period (NMAC [14.10.4](#)).

At LANL, ESM Chapter 7 Electrical Section D5000 states that we adopt the NEC for design when NM does—thus, all LANL design activity starts must implement NFPA 70-2017 effective immediately (today). ESM Ch. 16 is being revised to reinforce this. Note, for electrical worker safety purposes only, not design, NFPA 70 and 70E editions are controlled by P101-13, Electrical Safety Program; it currently invokes 70-2014 and 70E-2015, so expect another P101-

13 update this year to implement editions per [10CFR851](#), Worker Safety and Health Program, as discussed in the January Update.

From the ICC eNews. Ironic...

Sprinklers Are Still Illegal in Hawaii

March 20|PHCP Pros

In a re-creation of the popular legend, which tells us Emperor Nero fiddled while Rome burned; on July 14, 2017, the Building Industry Association (BIA) of Hawaii sent out an invitation for a celebratory pau hana to mark a new law that continues to prohibit counties from requiring single-family and duplex homes to have sprinklers. Within hours of the invite, a fire killed three people at the Marco Polo, a 36-story, 568-unit residential complex along Kapiolani Blvd. The building didn't have any sprinklers. Fortunately, after becoming aware of the developing tragedy, BIA-Hawaii cancelled the planned celebration. Earlier, in June of 2017, the celebration started at the signing of Senate Bill 611 by Hawaii Governor David Ige. [Read more.](#)

TRAINING & QUAL

Be sure to attend these rarely taught live courses if you need them!

Standards Intro Course 24140 – Wed, April 11

Provides familiarity with national and LANL engineering standards for anyone performing, reviewing, or managing design activities. Also recommended for those at local AE firms. C-Div auditorium (TA-46-535, Room 103), runs 8 a.m.– 4 p.m. by yours truly. You'll need to print your own handout and bring it; we'll email the slides to print a few days prior.

Seismic Design Requirements for Fire Sprinkler Systems – Thurs, April 19 Santa Fe

Per Glen Pappas, since LANL's SDC D, all of the material is extra applicable to us; thus, it could benefit C/S/A team, FP-DO, and those responsible for inspecting installation/construction (in the Training Outline, Who Will Benefit is: Anyone whose job involves designing, reviewing, evaluating or installing fire sprinkler systems, including: designers, installers, engineers, field inspectors, plan reviewers, technicians, project managers, fire marshals, and architects). Oruch has details if you're interested.

Electrical Standards – Thurs, May 3

Four-hour course 17998 covers the electrical engineering standards in Chapter 7 of the LANL Engineering Standards Manual and discusses mandatory requirements and good practices for those involved in electrical design. Strongly suggested for electrical designers, electrical engineers, electrical safety officers, and facility managers. AEs are also encouraged to attend. Taught by Electrical Standards POC Eric Stromberg from 7:30–11:30 am, at White Rock Training Center TA-00-1308 Rm 117.

Registering for UTrain Courses: Sign up via [UTrain](#). Search on course, assign to yourself, select and enroll. Disenroll if you have to bail. AEs can also register; contact Yolanda Trujillo at 665-5696 or ytrujillo@lanl.gov with Z number.

Speaking of sprinklers ...a company is marketing a system to spray acidic water when it detects gunfire. Sure it's expensive and false trips will cause havoc, but it's Second Amendment friendly.

Company builds unique sprinkler system to stop mass shooters

March 6 | CBS 46

A company out of Minnesota is developing technology that it said could stop school shooters. The idea is to use sprinklers against would-be gunmen. The Crotega Threat Suppression System uses high tech sensors to detect gunshots, and then uses a vinegar-based mixture from a sprinkler to irritate the eyes, nose, and mouth of the gunman. So far, the system has only been installed at an engineering firm, in Minnesota. Mark Brengman fully supports the defense system for his business. [Read more](#)

Speaking of geniuses...

There's a [Da Vinci, The Genius exhibit](#) at NM Natural History and Science Museum until July 29...

ENGINEERING PROCESSES CHANGES

As one of Jeff Fauble's last accomplishments at LANL, the following Administrative Procedure has been revised and posted on the AP [SharePoint site](#):

AP-341-519-R5	Design Revision Control Course 44245	Issued: 03/22/18
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Always ensure you are working to the latest revision being implemented by your facility. For questions about CoE engineering processes, please contact POC [Jeff Fauble](#) (5-0595). For training questions, contact [Yolanda Trujillo](#) at 665-5696.

We could see a few more AP revisions from Jeff's efforts in April or so, then it'll probably be the Great AP Revision Drought of 2018, but we've survived similar before.

LANL STANDARDS ISSUED IN MARCH

ESM STD-342-100	
Ch. 13, Welding, Joining & NDE, Vol. 3-WPS, Spec: 7100-xxxx-HPDE-EF-02	Initial issue. Thanks to no less than three Bingham including Kelly, Dick, and POC David.
Ch. 21, Software: SOFT-GEN-FM03(I) - SWNCP Instructions and Example	Added example. Thanks to SME Joy Getha.

Master Specifications STD-342-200	
07 8400 R5 Firestopping	Addition of AHJ approval of Eng Judgements for non-listed installations. Requirement for installer inspection report. Addressed oversight for IBC high risk, ML-1/2. Improved terminology. TWF and recent training experience added. Thanks to POC Julie Wood,

	SMPO/AHJ Jim Streit.
09 5100 R5 Acoustical Ceilings	Minor changes made to better, and consistently, differentiate between acoustic tile ceilings and acoustic panel ceilings. Thanks to POC Scott Richardson.
22 0816 R5 [33 1300] Disinfection of Potable Water Piping	New attachment for small scope work. Minor clarifications and corrections, including ES-UI, ESH, and EPC-CP (WQ) input. Thanks to SE Mark Trujillo, Jillian Burgin, Brian Iacona, and POC Michael Ladach.
22 1500 R4 Compressed-Air Systems	Added Seismic Requirements, Updated model numbers, Updated Code References, added designer notes. Thanks to POC Michael Ladach.
22 3700 Domestic Water Heaters	Added seismic requirements, updated model numbers and code references. Thanks to POC Michael Ladach.

Std Drawings & Details STD-342-400	
Chapter 5: Structural Motor Control Center Anchorage	Updated Calcs & Drawings to IBC 2015 & to CAD Standards Manual Rev. 5. Thanks to Ben Winter and Glen Pappas:
ST-D5020-3 Sht. 1 - Rev. 1 General Notes	Changed sheet # from S-0001
ST-D5020-3 Sht. 2 - Rev. 1 MCC to Housekeeping Pad Anchorage	Changed sheet # from S-4000
ST-D5020-3 Sht. 3 - Rev. 1 Housekeeping Pad to Existing Slab Anchorage	Changed sheet # from S-5001

PM PROCEDURE CHANGES (SELECTED)

These 350-series APs from PADCAP are applicable to projects subject to [SD350](#), *Project Management for Capital Asset Acquisition and Construction* (e.g., most anything involving capital funding, plus Environmental Programs and also some expense-funded projects over \$50k). Per Crystal Lucero, the APs are in the adpmdocs repository in [EDMS](#) (like the other PM docs; EDMS is under Top Tools on LANL homepage); if you have access issues, email project-dcrm@lanl.gov.

THE FOLLOWING PROCEDURE(S) HAS BEEN **REVISED** AND **ISSUED** ~3/5:
WI-400-3212, R3, Post-Installed Anchors and Core Drilling (including FM01-FM11)
WI-400-3304, R1, Cable Terminations (including FM01)

DOE TECHNICAL STANDARDS ACTION

STDs [postings](#) in the past month: None yet...



WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

The Deadliest Bridge Collapses in U.S. History

March 16|The Washington Post

A pedestrian bridge touted for its pioneering construction method collapsed Thursday over a congested road near Miami, killing at least six people, crushing eight vehicles and sending survivors to the hospital. The bridge, which weighed more than 950 tons and was still under construction, had been intended to allow Florida International University students to avoid crossing the hectic roadway that divided their campus and the nearby city of Sweetwater. But a different and chaotic scene unfolded about 1:30 p.m. Thursday, when rescue workers raced to free victims from blocks of concrete and fractured metal. A school news release on Saturday hailed the bridge's "first-of-its kind" construction that was supposed to reduce "potential risks to workers, commuters and pedestrians and minimizes traffic interruptions." [Read more.](#)

LAST MONTH'S UPDATE TOPICS

Miss an issue? The archive is at "[Monthly Update](#)" on the [Standards homepage](#). Last month's topics:

- **Goodbye Bill Kerley**
- **Training & Qual**
- **Interesting Global Construction Trivia**
- **Engineering Processes Changes**
- **LANL Standards Issued in February**
- **PM Procedure Changes**
- **DOE Technical Standards Action**
- **National Standards Action**
- **When Good Conduct of Engineering Isn't Followed**

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